

AMENDMENT OF THE CLAIMS

1. (currently amended) A method of monitoring a condition of an occupant of a vehicle, comprising the steps of:

locating a fluid-filled bladder in a supportive load-bearing relationship with respect to the occupant;

measuring a fluid pressure in the bladder;

estimating a weight of said occupant based on the measured pressure;

isolating a perturbation of the measured pressure due to a quasi-periodic physiological function of said occupant; and

identifying and monitoring, ~~and determining~~ a characteristic of said perturbation ;
~~and~~ following a collision of said vehicle, said characteristic including at least a frequency or period of said perturbation, determining a presence of said occupant based on the estimated weight and assessing a medical condition of said occupant based on the ~~determined~~ said characteristic of said perturbation.

2. (previously amended) The method of Claim 1, wherein the quasi-periodic physiological function is a heart rate of said occupant, and the step of isolating a perturbation of the measured pressure due to said heart rate includes band-pass filtering perturbations of the measured pressure in the range of about 0.6Hz to 10Hz.

3. (original) The method of Claim 2, wherein the band-pass filtering is in the range of about 2Hz to 7Hz.

4. (original) The method of Claim 2, including the step of:
determining a variability of the isolated perturbation to determine heart rate variability.

5. (previously amended) The method of Claim 2, including the step of:

determining an amplitude of said perturbation as an indication of the occupant's differential blood pressure.

6. (original) The method of Claim 5, including the step of:
measuring a variability of the determined amplitude with respect to time.

7. (previously amended) The method of Claim 5, including the step of:
using said amplitude as an indication of the occupant's health, alertness,
awareness or impairment.

8. (previously amended) The method of Claim 1, wherein the quasi-periodic physiological function is a respiration rate of said occupant, and the step of isolating a perturbation of the measured pressure due to said respiration rate includes band-pass filtering perturbations of the measured pressure in the range of about 0.15Hz to 0.5Hz.

9. (original) The method of Claim 8, including the step of:
determining a variability of the isolated perturbation to determine respiration rate variability.

10. (previously amended) The method of Claim 8, including the step of:
determining an amplitude of the isolated perturbation as an indication of the occupant's respiration volume.

11. (original) The method of Claim 10, including the step of:
measuring a variability of the determined amplitude with respect to time.

12. (previously amended) The method of Claim 10, including the step of:

using said amplitude as an indication of the occupant's health, alertness, awareness or impairment.

13. (previously amended) The method of Claim 1, including the step of:
adjusting an inflation level of said bladder to optimize the measured pressure and comfort of the occupant.

14. (original) The method of Claim 1, wherein there are two or more fluid-filled bladders, and the measured pressure is a differential pressure between the bladders.

15. (original) The method of Claim 1, including the steps of:
independently measuring environmental disturbances that affect the measured pressure; and
compensating the measured pressure for such independently measured environmental disturbances.

16. (original) The method of Claim 1, including the step of:
measuring a variability of the isolated perturbation with respect to time.

17. (previously amended) The method of Claim 1, including the step of:
using the monitored characteristic of said perturbation as an indication of the occupant's health, alertness, awareness or impairment.

18. (canceled)

19. (canceled)

20. (canceled)

21. (canceled)

22. (previously amended) The method of Claim 1, including the step of:
automatically communicating said medical condition.

23. (canceled)

24. (canceled)

25. (canceled)

26. (canceled)

27. (canceled)

28. (canceled)

29. (canceled)

30. (canceled)

31. (canceled)

32. (canceled)

33. (canceled)

34. (previously presented) The method of Claim 1, including the steps of:
 computing a locally normalized version of the determined characteristic based on
minimum and maximum values of said characteristic that are determined over a
prescribed time interval; and
 assessing the medical condition of said occupant based on the locally normalized
version of the determined characteristic.